Complete Summary

GUIDELINE TITLE

Recommendations to increase physical activity in communities.

BIBLIOGRAPHIC SOURCE(S)

Recommendations to increase physical activity in communities. Am J Prev Med 2002 May;22(4 Suppl):67-72. [45 references] PubMed

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Physical inactivity

GUIDELINE CATEGORY

Prevention

CLINICAL SPECIALTY

Preventive Medicine

INTENDED USERS

Health Care Providers
Health Plans
Managed Care Organizations
Physical Therapists
Physicians
Public Health Departments

GUIDELINE OBJECTIVE(S)

- To select and review evidence and to summarize recommendations concerning interventions to increase physical activity
- To provide guidance to personnel in state and local health departments, education agencies, universities, community coalitions, organizations that fund public health programs, health care systems, and others who have interest in or responsibility for increasing physical activity
- To assist policy makers and public health providers to implement interventions that have demonstrated to be effective in increasing physical activity, while using community resources efficiently

TARGET POPULATION

Children, adolescents, adults, and elderly adults in the general population of the United States

INTERVENTIONS AND PRACTICES CONSIDERED

Informational Approaches to Increasing Physical Activity

1. Community-wide campaigns (i.e., messages regarding physical activity behavior promoted through television, radio, newspaper columns and inserts, and movie trailers)
2. Mass media campaigns* (i.e., paid advertisements and donated promotions transmitted through newspapers, radio, television and billboards)
3. Point-of-decision prompts to encourage using stairs (i.e., motivational signs placed close to elevators and escalators)
4. Classroom-based health education focusing on information provision and behavioral skills* (i.e., health education for children on physical activity, nutrition, smoking, and alcohol and drug misuse)

Behavioral and Social Approaches to Increasing Physical Activity

1. Individually adapted health behavior change programs (i.e., programs tailored to help participants incorporate physical activity into their daily routines)
2. School-based physical education
3. Classroom-based health education focusing on reducing television viewing and video game playing*
4. College-age physical education and health education*
5. Social support interventions in community settings (i.e., changing physical activity behavior through social networks and support)
6. Social support interventions in family settings*

Environmental and Policy Approaches to Increasing Physical Activity

1. Creation of or enhanced access to places for physical activity combined with informational outreach activities (i.e., access to trails or facilities or reducing barriers to access)

*Note: The Task Force found insufficient evidence on which to base recommendations for these interventions.

MAJOR OUTCOMES CONSIDERED

- Changes in physical activity behavior, such as increased time spent walking
- Changes in selected fitness measures, such as increased aerobic capacity [maximal oxygen uptake or (VO2 max)]

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Reviews of Interventions to Increase Physical Activity

The reviews of interventions to increase physical activity reflect systematic searches of seven computerized databases (MEDLINE, Sportdiscus, PsychInfo, Transportation Research Information Services [TRIS] Online, Enviroline, Sociological Abstracts, and Social SciSearch) as well as reviews of reference lists and consultations with experts in the field. These yielded 6,238 titles and abstracts for review. Studies were eligible for inclusion if they:

- were published in English during 1980–2001
- were conducted in an established market economy
- assessed a behavioral intervention primarily focused on physical activity
- were primary investigations of interventions selected for evaluation rather than, for example, guidelines or reviews
- evaluated outcomes selected for review
- compared outcomes among groups of persons exposed to the intervention with outcomes among groups of persons not exposed or less exposed to the intervention (whether the study design included a concurrent or before-and-after comparison)

After review of the abstracts and consultation with specialists in the field, a total of 849 reports were retrieved. Of these, 253 were retained for full review. On the basis of limitations in execution or design or because they provided no additional information on studies that were already included, 159 of these were excluded and were not considered further. The remaining 94 studies were considered qualifying studies.

Individual studies were grouped together on the basis of the similarity of the interventions being evaluated, and analyzed as a group. Some studies provided evidence for more than one intervention. In these cases, the studies were divided into arms and reviewed for each applicable intervention, population, or outcome measure. Interventions and outcome measures were classified according to

definitions developed as part of the review process. The classification and nomenclature used in these systematic reviews sometimes differs from that used in the original studies.

Searching for and Retrieving Economic Evidence

The databases MEDLINE, Transportation Research Information Services (TRIS), Combined Health Information Database (CHID), ECONLIT, PsychInfo, Sociological Abstracts, Sociofile, Social SciSearch, and Enviroline were searched for the period 1980–2000. In addition, the references listed in all retrieved articles were reviewed and experts were consulted. Most of the included studies were either government reports or were published in journals. To be included in the review a study had to:

- be a primary study rather than, for example, a guideline or review
- take place in an Established Market Economy (see above)
- be written in English
- meet the team´s definitions of the recommended and strongly recommended interventions
- use economic analytical methods such as cost analysis, cost-effectiveness analysis, cost-utility, or cost-benefit analysis
- itemize program costs and costs of illness or injury averted

NUMBER OF SOURCE DOCUMENTS

Reviews of Interventions to Increase Physical Activity

94 studies were considered in this part of the report.

"Point-of-decision" prompts: 6 reports (one paper reported two studies)

Community-wide campaigns: 10 reports

Mass media campaigns: 3 studies

Classroom-based health education focused on information provision: 10 studies

School-based physical education: 12 studies

College-based health education and physical education: 2 studies

Classroom-based health education focused on reducing television viewing and video game playing: 3 studies

Family-based social support: 11 studies

Social support interventions in community settings: 9 reports

Individually-adapted health behavior change programs: 18 reports

Creation of or enhanced access to places for physical activity combined with informational outreach activities: 10 studies

Economic Evidence

3 studies were considered in this part of the report.

Individually-adapted health behavior change programs: 1 study

Creation of or enhanced access to places for physical activity combined with informational outreach activities: 2 studies

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Studies are categorized as having good, fair, or limited quality of execution based on the number of limitations (i.e., threats to validity) noted. Studies with limited quality of execution were not included in the summary effect of the intervention.

Good: 0 to 1 study limitations

Fair: 2 to 4 study limitations

Limited: 5 or more study limitations

Studies were evaluated for limitations in execution with respect to the following six categories (a total of 9 limitations are possible):

- Study population and intervention descriptions
- Sampling
- Exposure and outcome measurement
- Data analysis
- Interpretation of results (including follow-up, bias, and confounding)
- Other

In addition, the body of evidence of effectiveness is characterized as strong, sufficient, or insufficient based on the number of available studies, the suitability of their design and quality of execution, and the size and consistency of reported effects.

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Evaluating and Summarizing the Studies

Each study that met the inclusion criteria was evaluated using a standardized abstraction form and was assessed for suitability of the study design and threats to validity. On the basis of the number of threats to validity, studies were characterized as having good, fair, or limited execution. Studies with limited execution were not included in the summary of the effect of the intervention. The remaining studies (i.e., those with good or fair execution) were considered qualifying studies. Estimates of effectiveness are based on those studies.

In this review, effect sizes were calculated as the net percent change from baseline. This was done by one of three different methods, depending on study design. (See Appendix A of the evidence review for a detailed description of these methods.)

Net intervention effects were calculated for all reported measurements of a given outcome. Often, different variables were used within a study to assess changes affecting the same outcome (e.g., changes in physical activity might be calculated by measuring times per week in physical activity, self-reported physical activity score, minutes per week in physical activity, or all three). Multiple measurements of the same outcome were examined for consistency. Medians were calculated as summary effect measures for each type of measurement and were compared across outcomes for consistency.

Recommendations were based on behavioral measurements or measurements of aerobic capacity or both, according to an algorithm. (See Table A-2 of the evidence review companion.)

Bodies of evidence of effectiveness were characterized as strong, sufficient, or insufficient on the basis of the number of available studies, the suitability of study designs for evaluating effectiveness, the quality of execution of the studies, the consistency of the results, and the effect size.

Other Effects

The systematic reviews of interventions to increase physical activity also sought information on other effects (i.e., positive and negative health or nonhealth "side effects"). In addition to physical activity and aerobic capacity outcomes, information about adiposity and measures of physical fitness, including flexibility, muscular strength, agility, balance, and coordination was collected. The guideline developers also collected information about changes in knowledge, attitudes, and intentions, which are outcomes that may precede and thus affect physical activity. Information on other effects was only derived from studies that measured physical activity and aerobic capacity, as having information about these variables was one of the inclusion criteria.

Evidence of potential harms of these interventions was sought if they were mentioned in the effectiveness literature or if the team thought they were important. For example, in the reviews of school-based physical education, the team specifically sought information about the effect of the interventions reviewed on academic performance because of stated concerns about potential negative effects of taking time away from academic subjects.

Abstraction and Adjustment of Economic Data

Two reviewers read each study meeting the inclusion criteria. Any disagreements between the reviewers were reconciled by consensus of the team members. A standardized abstraction form (available at www.thecommunityguide.org) was used for abstracting data. For those studies conducting cost-effectiveness and cost-utility analysis, results were adjusted to approximate the analysis to the reference case suggested by the Panel on Cost-effectiveness in Health and Medicine. Results from cost-benefit analyses were adjusted for currency (to U.S. dollars) and base-year (to 1997 dollars) only. When feasible, results were recalculated if the discount rate used in the study was other than 3%.

Assessing the Quality of the Evidence of Economic Data

Quality of study design and execution was systematically assessed across five categories: study design, cost data, outcome measure, effects, and analysis. By subtracting points for each limitation from a perfect score of 100, study quality was characterized as very good (90–100), good (80–89), satisfactory (60–79), or unsatisfactory (less than 60). Results from unsatisfactory studies were not presented.

Summarizing the Body of Evidence of Economic Data

The findings regarding the economic efficiency of interventions are presented in summary tables. The summary tables include information on seven aspects of each included study. (See Table A-3 of the evidence review companion for an example of a summary table.)

Ratios or net present values (i.e., the summary measures for use in cost-effectiveness or cost-utility analyses and cost-benefit analysis, respectively) are pooled in ranges in those cases in which the intervention definition, population at risk, and comparator match across studies.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Other

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Task Force recommendations are based primarily on the effectiveness of interventions as determined by the systematic literature review process. In making recommendations, the Task Force balances information about the effectiveness of an intervention with information about other potential benefits and potential harms. To determine how widely a recommendation should apply, the Task Force also considers the applicability of the intervention in various settings and populations. Finally, the Task Force reviews economic analyses of those interventions found to be effective and summarizes applicable barriers to intervention implementation. Economic information is provided to assist the reader with decision making but generally does not affect the Task Force´s recommendation.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Strength of Evidence of Effectiveness = Strength of Recommendation

Strongly recommended: Strong evidence of effectiveness was found.

Recommended: Sufficient evidence of effectiveness was found.

Insufficient evidence: The available studies provided insufficient evidence to assess the effectiveness of the intervention.

Not recommended: The available studies provided sufficient evidence that the intervention is ineffective or that harms exceed benefits.

COST ANALYSIS

Each of the "Recommended" or "Strongly Recommended" interventions included a systematic review of information from economic evaluations.

METHOD OF GUIDELINE VALIDATION

Comparison with Guidelines from Other Groups
External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Recommendations from the U.S. Preventive Services Task Force (USPSTF) and the American College of Sports Medicine/Centers for Disease Control (ACSM/CDC) and Prevention were reviewed.

The guideline was submitted for extensive peer review, including review at various stages by a "consultant team," an external team of subject matter and methodologic experts, focus group testing for clarity and content, and peer review of the finished product by agencies and professional groups.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

The relationship between the strength of evidence of effectiveness and the strength of the recommendation is defined at the end of the "Major Recommendations" field.

The Task Force evaluated the evidence of effectiveness of 11 selected types of interventions that were grouped into three larger strategies for increasing physical activity: informational approaches, behavioral and social approaches, and environmental and policy approaches.

Informational Approaches

Informational approaches focus on increasing physical activity by providing information that will motivate and enable people to change behavior and to maintain that change over time. The focus is primarily on the cognitive skills that are thought to precede behavior. The interventions primarily use educational approaches to present both general information, including information about cardiovascular disease prevention and risk reduction, and specific information about physical activity and exercise. These programs were originally developed to complement a medical model of disease management by involving communities in understanding the cognitive antecedents of behavior.

Information is intended to change knowledge about the benefits of physical activity, increase awareness of opportunities for increasing physical activity, explain methods for overcoming barriers and negative attitudes about physical activity, and increase physical activity behaviors among community members. Interventions reviewed here are "point-of-decision" prompts to encourage use of stairs as an alternative to elevators or escalators, community-wide campaigns, mass media campaigns, and classroom-based health education focused on information provision and skills related to decision-making.

"Point-of-decision" prompts (recommended)

Point-of-decision prompts are motivational signs placed by elevators and escalators to encourage people to use nearby stairs for health benefits or weight loss. For people who want to increase their level of physical activity these prompts serve as a reminder to take the stairs and offer information about a health benefit from using the stairs. All interventions evaluated in this category were single component interventions, in which the placement of signs was the only intervention activity.

Point-of-decision prompts are recommended on the basis that they increase the number of people using stairs rather than escalators or elevators. This intervention has been shown to be effective in a range of settings and a variety of population subgroups. No harms or other potential benefits were reported and no qualifying economic information was identified from the literature.

Community-wide campaigns (strongly recommended)

Community-wide campaigns are sustained efforts with ongoing high visibility. These are large-scale campaigns that deliver messages promoting physical activity using television, radio, newspaper columns and inserts, and trailers in movie theaters. They use many components and include individually-focused efforts such as support and self-help groups; physical activity counseling; risk factor screening and education at worksites, schools, and community health fairs; and environmental activities such as community events and the creation of walking trails. Community-wide education is strongly recommended on the basis of its effectiveness in increasing physical activity and improving physical fitness among adults and children. Other positive effects include increases in knowledge about exercise and physical activity, and in intentions to be physically active. No harms were reported and no qualifying economic information was identified from the literature.

Mass media campaigns (insufficient evidence)

Mass media campaigns, designed to increase knowledge, influence attitudes and beliefs, and change behavior, address messages about physical activity to large and relatively undifferentiated audiences. Messages about benefits and opportunities for physical activity are transmitted using such media as newspapers, radio, television, and billboards, singly or in combination. Mass media campaigns include paid advertisements, donated time and space for promotions, and news or lifestyle features. These interventions differ from community-wide education in that they do not include other components such as support groups, risk factor screening and education, or community events.

The Task Force identified three qualifying studies that evaluated the effect of mass media campaigns. The studies identified in our search are over 10 years old; however, research is currently being conducted on the effects of mass media campaigns on physical activity. On the basis of the small number of available studies and variability in the interventions evaluated, insufficient evidence was found to assess the effectiveness of single component mass media campaigns.

Classroom-based health education focused on information provision (insufficient evidence)

Health education classes that provide information and skills related to decision making are usually multi-component, with curriculum typically addressing physical inactivity, nutrition, tobacco use, and alcohol and drug misuse. Health education classes, taught in elementary, middle, or high school, are designed to effect behavior change through personal and behavioral factors that provide children or adolescents with the skills they need for rational decision-making. The classes in this review did not include physical education (PE) but sometimes included behavioral instruction. (For recommendations on classes involving PE, see School-based PE, below.)

The Task Force identified six qualifying studies that evaluated the effect of classroom-based health education on students´ physical activity levels and physical fitness. Because results were inconsistent across the body of evidence, insufficient evidence exists to make a conclusion about the effectiveness of classroom-based health education focused on information provision in improving physical activity levels and physical fitness. It is important to note, however, that such classes may provide other benefits, including increased knowledge, more supportive attitudes for physical activity initiatives, or changes in other health-related behaviors.

Behavioral and Social Approaches

Behavioral and social approaches focus on increasing physical activity by teaching widely applicable behavioral management skills and by structuring the social environment in ways that provide support for people trying to initiate or maintain behavior changes. Behavioral and social approaches were combined because these interventions often involve group behavioral counseling, and may also involve the friends or family members that constitute the individual´s social environment. Skills focus on recognizing cues and opportunities for physical activity, ways to manage high-risk situations, and ways to maintain desired behaviors and prevent relapse. These interventions also involve making changes in the home, family, school, and work environments.

Interventions reviewed here are school-based physical education, college-based health education and PE, classroom-based health education focusing on reducing television viewing and video game playing, family-based social support interventions, social support interventions in community settings, and individually-adapted health behavior change programs.

School-based PE (strongly recommended)

These interventions involve modifying curricula and policies to increase the amount of time students spend in moderate to vigorous activity while in physical education classes. Increasing the amount of time students are active can be achieved either by increasing the amount of time spent in PE class or increasing the amount of time students are active during already-scheduled PE classes. Interventions in this review included changing the activities taught (e.g., substituting soccer for softball) and modifying the rules of the game so that students are more active (e.g., having the entire team run the bases together when the batter makes a base hit). School-based PE is strongly recommended based on its effectiveness in increasing physical activity and improving physical fitness among adolescents and children. Other positive effects associated with school-based PE are increases in physical activity knowledge and increases in muscular endurance. One potential harm suggested in the literature is that PE classes could take away from the time that schools can devote to academic subjects, thereby harming academic performance. Examination of these studies and a systematic search for other studies of the effects of PE on academic performance found no evidence of this harm. No qualifying economic information was identified from the literature.

College-based health education and PE (insufficient evidence)

These interventions use didactic and behavioral education efforts to increase physical activity levels among college students with the aim of setting long-term behavioral patterns during the transition to adulthood. The PE classes do not have to be offered by PE or wellness departments in college and university settings, but do include supervised activity in the class. These classes have both lectures and laboratory-type sessions; students engage in supervised physical activity, develop goals and activity plans, and write term papers based on their experiences. Social support is also built into these programs.

The Task Force identified two qualifying studies that evaluated the effectiveness of college-based health education and PE. Based on both the small number of available studies and variability in the interventions evaluated, insufficient evidence exists to assess the effectiveness of college-based health education and PE interventions.

Classroom-based health education focusing on reducing television viewing and video game playing (insufficient evidence)

In these interventions, health education classes taught in elementary school classrooms as part of a general health curriculum by regular classroom teachers specifically emphasize decreasing the amount of time spent watching television and playing video games. Lessons include behavioral management strategies such as self-monitoring of viewing behavior, limiting access to television and video

games, and budgeting time for television and video. All studies reviewed included a "TV turnoff challenge" in which students were encouraged not to watch television for a specified number of days. Alternative activities that required greater energy expenditure were not specifically recommended. Parental involvement was a prominent part of the intervention, and all households were given automatic television use monitors.

The Task Force identified three qualifying studies that evaluated the effectiveness of these interventions. Although the studies showed decreases in the amount of time spent in television viewing and other sedentary behaviors, and found reductions in adiposity, they did not provide consistent evidence for increased physical activity. Based on the small number of available studies, the variability in the interventions evaluated, and the lack of information specifically linking these programs to increases in physical activity, insufficient evidence exists to assess the effectiveness of classroom-based health education focused on reducing television viewing and video game playing in increasing physical activity.

Family-based social support (insufficient evidence)

These interventions attempt to change health behavior through strategies that increase the support of family members for behavioral change. The intent is to create and facilitate behavioral patterns, social interactions, and family norms that support greater levels of physical activity. These interventions target environmental factors and interpersonal and behavioral patterns. Typical elements include setting up behavioral "contracts" between family members as well as goal-setting, problem-solving, and other family behavioral management techniques. Interventions may be targeted to families with children or to couples without children. Programs typically include educational sessions on health, goal-setting, and problem-solving; family behavioral management; or both educational sessions and behavioral management. The programs may also incorporate some physical activities. Interventions directed toward children and their families are often implemented as part of a more comprehensive approach that includes school-based interventions, such as school-based PE or classroom-based health education. In these instances, the family component is often seen as an adjunct to the school activities, involving take-home packets, reward systems, and family record keeping. These interventions may also include family-oriented special events.

The Task Force identified eleven qualifying studies that evaluated the effect of family-based social support programs on physical activity levels and physical fitness. Because results across the body of evidence were inconsistent, the Task Force could not reach a conclusion about the effectiveness of these programs in improving physical activity levels and physical fitness.

Social support interventions in community settings (strongly recommended)

These interventions focus on changing physical activity behavior through building, strengthening, and maintaining social networks that provide supportive relationships for behavior change, specifically physical activity. This can be done either by creating new social networks or working within pre-existing networks in a social setting outside the family, such as the workplace. Interventions typically

involved setting up a "buddy" system, making "contracts" with others to complete specified levels of physical activity, or setting up walking or other groups to provide friendship and support. These programs are strongly recommended based on their effectiveness in increasing physical activity (specifically the time spent exercising and frequency of exercise) and improving physical fitness among adults. Other positive effects include increases in muscular strength and flexibility and decreases in adiposity. No harms were reported and no qualifying economic information was identified from the literature.

Individually-adapted health behavior change programs (strongly recommended)

Individually-adapted health behavior change programs are tailored to the individual´s specific interests, preferences, and readiness for change. These programs teach participants the behavioral skills needed to incorporate moderate-intensity physical activity into daily routines. Behaviors may be planned (e.g., a daily scheduled walk) or unplanned (e.g., using the stairs when the opportunity arises). Many of these interventions use constructs from one or more established health behavior change models (e.g., Social Cognitive Theory, the Health Belief Model, or the Transtheoretical Model of Change). All programs reviewed incorporated the following set of skills:

1. setting goals for physical activity and self-monitoring of progress toward goals;
2. building social support for new behavioral patterns;
3. behavioral reinforcement through self-reward and positive self-talk;
4. structured problem-solving geared to maintaining the behavior change; and
5. prevention of relapse into sedentary behaviors.

All of the interventions evaluated were delivered either in group settings or by mail, telephone, or directed media.

Individually-adapted health behavior change programs are strongly recommended based on their effectiveness in increasing physical activity and improving physical fitness among adults and children. Other positive effects include decreases in weight and percentage of body fat and increases in flexibility, strength, and cognitive effects related to physical activity. No harms were reported and no qualifying economic information was identified from the literature.

Environmental and Policy Approaches

Environmental and policy approaches are designed to help people adopt healthier behaviors. The creation of healthful physical and organizational environments is attempted through development of public policy that supports healthy practices, creation of supportive environments, and strengthening of community action. Correlational studies have shown that the availability of exercise equipment in the home and the proximity and density of places for physical activity within neighborhoods are associated with physical activity levels. Other neighborhood and environmental characteristics such as safety lighting, weather, and air pollution also affect physical activity levels, regardless of individual motivation and knowledge.

Interventions in this category are not aimed at individuals but rather affect entire populations by targeting physical and organizational structures. They are implemented and evaluated over a longer period of time than more individually-oriented interventions. Interventions are conducted by traditional health professionals, but also involve many sectors that have not previously been associated with public health, such as community agencies and organizations, legislators, departments of transportation and planning, and the media. The goal is to create changes in social networks, organizational norms and policies, the physical environment, and laws. In addition to the intervention discussed here, reviews of two other interventions are underway: (1) urban form (design) and land-use planning strategies that lead to increased physical activity and (2) changes to transportation and travel policy and infrastructure that reduce dependence on motorized transport and increase physical activity.

Creation of or enhanced access to places for physical activity combined with informational outreach activities (strongly recommended)

These interventions attempt to change the local environment to create opportunities for physical activity. Access to places for physical activity can be created or enhanced both by building trails or facilities and by reducing barriers (e.g., reducing fees or changing operating hours of facilities). Many of these programs also provide training in use of equipment, other health education activities, and incentives such as risk factor screening and counseling. Several programs reviewed were conducted at worksites. These interventions are strongly recommended based on their effectiveness in increasing physical activity and improving physical fitness among adults. Other positive effects include decreases in adiposity. No harms were reported and no qualifying economic information was identified from the literature.

Definitions:

Strongly recommended: Strong evidence of effectiveness was found.

Recommended: Sufficient evidence of effectiveness was found.

Insufficient evidence: The available studies provided insufficient evidence to assess the effectiveness of the intervention.

Not recommended: The available studies provided sufficient evidence that the intervention is ineffective or that harms exceed benefits.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The recommendations are based on 94 qualifying studies, all of which had good or fair execution quality. In general, the strength of evidence of effectiveness

corresponds directly to the strength of recommendations (see the "Major Recommendations" field).

Detailed descriptions of the evidence are provided in the evidence review accompanying this guideline: Kahn E, Ramsey LT, Brownson RC, et al. The effectiveness of interventions to increase physical activity: a systematic review. Am J Prev Med. 2002 May;22(4 Suppl):73-107.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Regular physical activity is associated with enhanced health and reduced risk for all-cause mortality. Beyond the effects on mortality, physical activity has many health benefits, including reduced risk of cardiovascular disease, ischemic stroke, non-insulin-dependent (type 2) diabetes, colon cancers, osteoporosis, depression, and fall-related injuries.

Subgroups Most Likely to Benefit:

The largest public health benefit of physical activity interventions is a result of increased activity among sedentary populations, rather than increased activity among already active people.

POTENTIAL HARMS

Not stated

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

- These recommendations represent the work of the Task Force on Community Preventive Services (the Task Force). An independent, nonfederal group, the Task Force is developing the Guide to Community Preventive Services (the Community Guide) with the support of the U.S. Department of Health and Human Services (DHHS), in collaboration with public and private partners. The Centers for Disease Control and Prevention (CDC) provides staff support to the Task Force for developing the Community Guide. The recommendations presented in this report, however, do not necessarily represent the recommendations of the Centers for Disease Control and Prevention or the U.S. Department of Health and Human Services.
- The strength of each recommendation is based on the strength of the evidence of effectiveness (e.g., an intervention is strongly recommended when there is strong evidence of effectiveness, and recommended when there is sufficient evidence). Other types of evidence can also affect a recommendation. For example, evidence of harms resulting from an intervention might lead to a recommendation that the intervention not be used if adverse effects outweigh improved outcomes. In general, the Task Force does not use economic information to modify recommendations.

- A finding of insufficient evidence of effectiveness should not be seen as evidence of ineffectiveness, but rather reflects the fact that the systematic review did not identify enough information for the Task Force to make a recommendation. Further, it is important for identifying areas of uncertainty that require additional research. In contrast, sufficient or strong evidence of ineffectiveness leads to a recommendation that the intervention not be used.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

The Task Force recommendations are a compendium of tested interventions that promote physical activity at the community level. They can be used for planning interventions to promote physical activity or to evaluate existing programs, including creation of or enhanced access to places for physical activity combined with informational outreach activities, community-wide education, social support interventions in community settings, "point-of-decision" prompts to encourage use of stairs as an alternative to elevators or escalators, school-based physical education, and individually-adapted health behavior change programs.

Choosing interventions that are well-matched to local needs and capabilities, and then carefully implementing those interventions, are vital steps for increasing physical activity at the community level. In setting priorities for the selection of interventions to meet local objectives, recommendations and other evidence provided in the Community Guide should be considered along with such local information as resource availability, administrative structures and policies, and economic and social environments of organizations and practitioners.

Information regarding applicability can be used to assess the extent to which the intervention might be useful in a particular setting or population. Although sparse, economic information can be useful both in identifying resource requirements for interventions and in choosing interventions that meet public health goals more efficiently than other available options. Taking into consideration local goals and resources, the use of strongly recommended and recommended interventions should be given priority for implementation. A finding of insufficient evidence of effectiveness should not be seen as evidence of ineffectiveness, but rather reflects the fact that the Task Force´s systematic review did not identify enough information for the Task Force to make a recommendation. Further, it is important for identifying areas of uncertainty that require additional research. In contrast, sufficient or strong evidence of ineffectiveness leads to a recommendation that the intervention not be used.

Although many of the recommended or strongly recommended interventions had small to moderate behavior change scores, readers should keep in mind that the interventions were targeted at populations of people rather than individuals and that such small changes occurring among populations can amount to significant changes in terms of public health. In addition, the largest public health benefit of physical activity interventions is a result of increased activity among sedentary populations, rather than increased activity among already-active people. Therefore, the interventions, if widely implemented, could create significant public health benefits.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Recommendations to increase physical activity in communities. Am J Prev Med 2002 May;22(4 Suppl):67-72. [45 references] PubMed

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2002 May

GUIDELINE DEVELOPER(S)

Task Force on Community Preventive Services - Independent Expert Panel

SOURCE(S) OF FUNDING

United States Government

GUIDELINE COMMITTEE

Task Force on Community Preventive Services

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

This guideline is subject to periodic updates.

GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the Task Force on Community Preventive Services Web site. Also available from the National Library of Medicine's Health Services/Technology Assessment Text (HSTAT) Web site.

Print copies: Available from the Community Guide Branch, Epidemiology Program Office, Centers for Disease Control and Prevention, 4770 Buford Highway, Mailstop K-73, Atlanta, GA 30341.

AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

Guideline Summary:

- Increasing physical activity: a report on recommendations of the Task Force on Community Preventive Services. MMWR Recomm Rep. 2001 Oct 26;50(RR-18):1-14. Available from the Centers for Disease Control and Prevention (CDC) Web site: Portable Document Format (PDF); HTML Format

Evidence Review

- Kahn EB, Ramsey LT, Brownson R, Heath GW, Howze EH, Powell KE, Stone EJ, Rajab MW, Corso P, Task Force on Community Preventive Services. The effectiveness of interventions to increase physical activity. Am J Prev Med. 2002 May;22(4 Suppl):73-107.

General Background Articles:

- Truman BI, Smith-Akin CK, Hinman AR, Gebbie KM, Brownson R, Novick LF, Lawrence RS, Pappaioanou M, Fielding J, Evans CA, Jr., Guerra F, Vogel-Taylor M, Mahan CS, Fullilove M, Zaza S, Task Force on Community Preventive Services. Developing the Guide to Community Preventive Services—overview and rationale. Am J Prev Med 2000 Jan;18(1 Suppl):18-26.
- Pappaioanou M, Evans CA, Jr. Development of the Guide to Community Preventive Services: A U.S. Public Health Service initiative. J Public Health Manag Pract 1998 Mar;4(2):48-54.
- Zaza S, Lawrence RS, Mahan CS, Fullilove M, Fleming D, Isham GJ, Pappaioanou M, Task Force on Community Preventive Services. Scope and

organization of the Guide to Community Preventive Services. Am J Prev Med 2000 Jan;18(1 Suppl):27-34.
- Briss PA, Zaza S, Pappaioanou M, Fielding J, Wright-de Aguero L, Truman BI, Hopkins DP, Mullen PD, Thompson RS, et al, and the Task Force on Community Preventive Services. Developing an evidence-based Guide to Community Preventive Services—methods. Am J Prev Med 2000 Jan;18(1 Suppl):35-43.
- Zaza S, Wright-de Aguero L, Briss PA, Truman BI, Hopkins DP, Hennessy MH, Sosin DM, Anderson L, Carande-Kulis VG, Teutsch SM, Pappaioanou M, Task Force on Community Preventive Services. Data collection instrument and procedure for systematic reviews in the Guide to Community Preventive Services. Am J Prev Med 2000 Jan:18(1 Suppl):44-74.
- Carande-Kulis VG, Maciosek MV, Briss PA, Teutsch SM, Zaza S, Truman BI, Messonier ML, Pappaioanou M, Harris.J.R., Fielding J, Task Force on Community Preventive Services. Methods for systematic reviews of economic evaluations for the Guide to Community Preventive Services. Am J Prev Med 2000 Jan;18(1 Suppl):75-91.
- Zaza S , Pickett JD. The Guide to Community Preventive Services: update on development and dissemination activities. J Public Health Manag Pract 2001 Jan;7(1):92-4.
- Novick LF, Kelter A. The Guide to Community Preventive Services: a public health imperative. Am J Prev Med. 2001 Nov;21(4 Suppl):13-5.

Users can access the complete collection of companion documents at the Task Force on Community Preventive Services Web site.

Print copies: Available from the Community Guide Branch, Epidemiology Program Office, Centers for Disease Control and Prevention, 4770 Buford Highway, Mailstop K-73, Atlanta, GA 30341.

PATIENT RESOURCES

None available

NGC STATUS

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